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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,211	07/02/1999	TATSUYA YOSHIDA	381NP/47981	6315

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EXAMINER
DEBERADINIS, ROBERT L

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 07/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/349,211	TATSUYA YOSHIDA et al.
Examiner	**Art Unit**
ROBERT L. DEBERADINIS	2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Nov 8, 2001* .

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-25* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Fritz Fleming
Primary Examiner

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☒ Interview Summary (PTO-413) Paper No(s). 16
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

The Office Action of 11/30/01 is withdrawn also the Office Action of 1/11/02 is withdrawn and the present action is in response to the amendment of 11/8/01 which was not before the Examiner for consideration in the Office Action of 11/30/01.

Response to Arguments

1. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> > (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1,3-9,11,14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by MATSUMARU 5,818,673.

Regarding claims 1,4,5,9,16.

MATSUMARU discloses :

an electric power line comprising a plurality of sequentially connected segments (refer to figure 1 A, trunk line 55);

a semiconductor switching element (72,73) connected between each respective segment and a load supplied by said segment for controlling electric power to said load (refer to column 8, lines 45-54);

a plurality of short circuit sensors (column 7, lines 19-22 and the abstract) for detecting a short circuit in at least one of said plurality of segments of said electric power line, said at least one segment connecting respective modules;

a power supply shutdown means connected in series with each segment of said electric power line connecting respective modules (refer to column 8, lines 6-53);

a control circuit for specifying a short circuited segment of said electric line in accordance with a short detection condition of said plurality of short sensors; and

means responsive to signals from said control circuit for cutting off the power supply cutoff means, and removing the short circuited segment from said electric power line for supplying power to said loads (refer to column 7, lines 18-21).

Regarding claim 3,7.

MATSUMARU discloses a load drive electric power line wired in an interior of a vehicle from the battery through a first fuse.

Refer to column 2, lines 21-40.

Regarding claim 6,19.

MATSUMARU discloses a communication control circuit, refer to column 7, lines 56-68.

Regarding claim 8,17.

MATSUMARU discloses a first fuse, second fuse and a third fuse, refer to figure 6, starting from the battery positive terminal, through first fuse 15, through second fuse 15, through switch, through third fuse 14.

Regarding claim 11,18,20.

MATSUMARU discloses a load control module comprising a relay, refer to column 1, lines 56-59.

Regarding claim 14.

MATSUMARU discloses a power supply apparatus for a vehicle comprising a second driver circuit for supplying power to a second load via an indirect circuit path (refer to column 7, lines 18-22) of said shutdown apparatus.

Regarding claim 15.

MATSUMARU discloses a power supply apparatus comprising at least one relay and a fuse for opening a power line between a load and a power supply in response to a specific condition. Refer to column 1, lines 55 plus.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 2,10,12,13,21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over MATSUMARU 5,818,673.

Regarding claim 2.

MATSUMARU discloses a connection box connecting said electric power line segments to each other.

MATSUMARU does not disclose connectors connecting said electric power line segments to each other arranged between respective short sensors.

The Examiner takes official notice. The use of connectors is well known in the art. It would have been obvious to one having ordinary skill in the art at the time of this invention to use connectors to interface with the connection box to connect said electric power line segments to each other arranged between respective short sensors to provide a means to quick disconnect trunk lines for easy replacement of damaged line segments (trunk lines).

Regarding claim 10.

MATSUMARU discloses a plurality of control modules, each having a control circuit in which a load drive signal is generated and a load drive circuit for controlling a power supply to a load according to a drive signal from said control circuit.

MATSUMARU does not disclose a first relatively larger power line for supplying load drive power and a second relatively smaller power line for supplying control circuit power.

The Examiner takes official notice. It is well known in the art that the size of a power line used in a power circuit is dictated by the load the power line must supply. It would have been obvious to one having ordinary skill in the art at the time of this invention to a first, relatively larger power line to supply loads of relatively larger capacity and a second, relatively smaller power line to supply loads of relatively smaller capacity instead of using relatively larger power lines to supply relatively smaller capacity loads, to reduce cost and weight of the power supply apparatus.

Regarding claims 12,13.

MATSUMARU discloses a power supply apparatus for a vehicle according to claim 8, comprising various loads are respectively branched from the electric connection boxes so as to be operated with electric power supplied from the power supply portion through the electric connection boxes and when a driver operates a required operation switch (refer to column 1, lines 60-67, column 2, lines 1-10).

MATSUMARU does not disclose a separate power supply system for supplying power from said at least one of an ignition coil switch.

It would have been obvious to one having ordinary skill in the art at the time of this invention to supply a separate power supply system for supplying power from said at least one of an ignition coil switch to provide a separate fuse to protect the ignition coil switch.

Regarding claim 21.

MATSUMARU discloses a power supply apparatus for a vehicle, the electric connection boxes located within a vehicle for distribution of power.

MATSUMARU does not disclose a rear control module or a front control module.

It would have been obvious to one having ordinary skill in the art at the time of this invention to provide a front electric connection box to control the loads in the front of the vehicle and a rear connection box to control loads in the rear of the vehicle, to provide central control of the local loads to simplify the cabling.

Regarding claim 22,23,24.

MATSUMARU discloses a power supply apparatus comprising at least one relay and a fuse for opening a power line between a load and a power supply in response to a specific condition. Refer to column 1, lines 55 plus.

Regarding claim 25.

MATSUMARU does not disclose a sleep control circuit.

The Examiner takes official notice, a sleep mode in computer design, to conserve battery power is well known to one having ordinary skill in the art. It would have been obvious to one having ordinary skill in the art at the time of this invention to provide a sleep control circuit for

opening a relay contact thus performing a shutdown to disconnect the battery from the load to prevent the battery from discharging through the load when the power is not needed in said load, to conserve the battery power.

Any inquiry concerning this communication should be directed to Robert L. DeBeradinis whose number is (703) 306-5857. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus, can be reached on (703) 308-3119. The fax phone number for this Group is (703) 305-7724.

RLD

MAY 21, 2002

Fritz Fleming
Primary Examiner